



DEPARTMENTS OF THE ARMY AND THE AIR FORCE
JOINT FORCE HEADQUARTERS
MASSACHUSETTS NATIONAL GUARD
2 RANDOLPH ROAD
HANSCOM AFB, MA 01731-3001

REPLY TO
ATTENTION OF:

Environmental Program Manager

31 August 2016

Lynne Jennings
US EPA Region 1
5 Post Office Square, Suite 100
Boston, Massachusetts 02109-3912

Subject: Petition to Modify the Scope of Work of Administrative Order SDWA I-97-1030

Dear Ms. Jennings,

Through this letter, the National Guard Bureau (NGB) and the Massachusetts National Guard (MANG) petition the US Environmental Protection Agency Region 1 (EPA) for a modification of the Scope of Work (SOW) in the 1997 Administrative Order SDWA I-97-1030 (AO2) as provided in paragraph 125 of AO2. This petition specifically requests that Section II.A.1.a and .f (page 30) of the AO2 SOW, which is the paragraph prohibiting "All firing of lead ammunition or other 'live' ammunition at small arms ranges at or near the Training Range and Impact Area" and "All use of pyrotechnics at or near the Training Range and Impact Area" be modified to:

1. End the prohibition of "All firing of lead ammunition or other 'live' ammunition at small arms ranges at or near the Training Range and Impact Area" and "All use of pyrotechnics at or near the Training Range and Impact Area,"
2. End the Pilot Period for Tango, Juliet, and Kilo Ranges,
3. Accept and approve the Pilot Period Final Report as complete, and
4. Recognize the Commonwealth of Massachusetts Environmental Management Commission (EMC) as the oversight body for small arms range development and pyrotechnic use at Camp Edwards.

The most consequential change since the AOs were issued was in 2000, when representatives of the community through the Governor's Community Working Group created the Environmental Management Commission (EMC). The EMC is comprised of the commissioners of the Department of Fish and Game, the Department of

Environmental Protection (MassDEP) and the Department of Conservation and Recreation. Its authority comes from Massachusetts Chapter 47 of the Acts of 2002.

The EMC oversees compliance with, and enforcement of, the Environmental Performance Standards. Environmental Performance Standards are a set of standards specifically created through the Massachusetts Environmental Policy Act process to protect all environmental resources at Camp Edwards.

The EMC has successfully overseen small arms, pyrotechnic use, and training at Camp Edwards for 15 years. The EMC conducts training area inspections (to include small arms ranges) and regular public meetings through and receives input and advice from its Science and Community Advisory Councils. On a day-to-day basis the EMC's Environmental Officer has direct oversight of training and information access as needed.

As stated during the approval process for Tango Range (2007) and Juliet and Kilo Ranges (2008), the requested resumption of live fire training is necessary and appropriate for force protection and military readiness. Massachusetts Army and Air National Guard personnel have been required to deploy on a more frequent basis to support the Federal Mission as required by the Department of Defense. Small arms qualification is a mandatory core capability for Army and Air National Guard Soldiers and Airmen and an essential requirement for survivability and combat readiness. It is required that MANG personnel be qualified on all of their assigned weapon systems.

The 17-month interim approval, provided by EPA in July 2007, for firing lead ammunition at Tango Range was a critical first step in protecting the lives of the MANG's military personnel who must train as they fight. The National Guard pre-deployment training time for soldiers had been reduced from 18 months to approximately 12 months. This requires that each state maximize the time it has prior to unit deployment to train core competencies which includes all "warrior shoot tasks," more commonly referred to as weapons familiarization and qualification. To ensure that the MANG meets the standard to which we must train and qualify personnel on small arms weapons, the availability of additional small arms ranges at Camp Edwards is critical.

Pyrotechnics are also critical in training for core competencies. The confusion and stress of battle makes decision-making difficult. In order to create this type of scenario on Camp Edwards, the use of pyrotechnics in training is crucial. To date, three pyrotechnic devices used in training have been approved by EPA. The first was the M116A1 hand grenade simulator (25 June 2012), the next was the M69 practice grenade with the M228 fuse (2 May 2013) and finally the percussion activated neutralizer (1 June 2016). Use of pyrotechnics is critical to and is part of protecting the lives of the MANG's military personnel.

The MANG believes that EPA's findings as identified in AO2 and the approval letters for the STAPPTM ranges (Juliet, Kilo, and Tango Ranges) have and will be continually addressed to be protective of the Camp Edwards Training Area/Upper Cape Water Supply Reserve. The MANG feels that it has eliminated to the greatest extent

practical any imminent and substantial endangerment to the aquifer through mitigation (extensive removal of contaminated soils and projectiles) and creating managed ranges with focus on limiting projectile deposition, defining range boundaries (i.e. no fire and forget), keeping ranges in good condition, conducting rigorous environmental monitoring, and having external oversight to ensure compliance through the EMC and its advisory bodies.

Specific tasks completed and findings addressed include:

- Lead and lead contaminated soil was removed from impact berms as a mitigation measure and further removal has been conducted as identified in the Decision Document, Small Arms Range Operable Unit, September 2015. Specifically, 46,000 tons of soil and 71 tons of lead-based projectiles have been removed from the training area at Camp Edwards significantly reducing the imminent and substantial endangerment identified in AO2 with regards to lead and the groundwater. Research and sampling have proven that the mobility of lead in the soils at Camp Edwards is extremely low and that lead in the groundwater as a result of small arms range use has not been found.
- Research was conducted into the use of projectile capturing material and nontoxic ammunition. The MANG has three ranges using a STAPP™ Bullet Catcher System and two ranges that are utilizing nontoxic ammunition, i.e. copper projectiles. It was found that currently-available bullet traps unto themselves may cause further harm to the environment. For example, most bullet traps consist of a smash plate and collection trough where lead bullets, fragments, and dust are concentrated. These traps are not water proof and with the concentrated lead bullets, fragments, and dust would constitute a point source for lead where no mitigating factors would exist. Sacon, specifically mentioned in AO2, captures bullets but as it wears it allows the bullets, fragments, and dust to fall free to the base of the Sacon trap, again creating a concentrated area of contamination where water can cause metals to oxidize at a greater rate and increase availability and or mobility in soils.
- The MANG now uses lead bullets on ranges that have a STAPP system in place to capture the projectiles and / or the range is managed through an Operations, Maintenance and Monitoring Plan (OMMP). Currently the MANG is proposing to utilize lead bullets firing into an earthen berm on Echo Range. Echo Range is a pistol range where significantly lower muzzle velocities allow for projectiles to be captured intact. This was verified by conducting multiple test fires to demonstrate that projectiles can be captured and contained within a defined space on the backstop berms and that projectiles were intact and could be recovered to a high degree. After the final test fire a 95% + recovery rate was achieved with all projectiles found to be intact. Management, operational controls, environmental monitoring, and inspections will be provided for through an Operations, Maintenance and Monitoring Plan with emphasis on timely projectile removal and

environmental monitoring along with internal inspections being conducted by Camp Edwards Range Control and environmental staff and external inspections conducted by the EMC's Environmental Officer.

- For all future rifle ranges on Camp Edwards the Department of the Army and the MANG are transitioning to copper rounds namely the Enhanced Performance Round currently used on India and Sierra Ranges at Camp Edwards. Like all other ranges these ranges are and will be managed in accordance with an approved Operations, Maintenance and Monitoring Plan. Copper rounds, specifically the M855A1 Enhanced Performance Round, are now used at Sierra Range and India Range at Camp Edwards. After 4 years of use and with annual sampling of soil, porewater, and groundwater there has been no elevated levels of copper or other metals found at the firing line or berms at these ranges.
- Operations, Maintenance, and Monitoring plans are created for all approved ranges and devices. These plans have been developed in partnership with EPA, MassDEP, and the EMC. The goal of these plans is to avoid any releases or damage to the environment that may cause harm to the Camp Edwards Training Area/Upper Cape Water Supply Reserve's groundwater resources. These plans provide for the monitoring of environmental media that includes, soil, porewater, and groundwater. Monitoring data show that current small arms range training activities and the use of approved pyrotechnics can be conducted without any impact on the groundwater.
- Through the last nine years of the Pilot Period, the MANG successfully operated, managed, and funded the active ranges at Camp Edwards. Although there have been unanticipated problems with the STAPP™ systems, the MANG has been diligent in investigating, researching, and implementing solutions to problems as they are discovered.
- Pyrotechnics currently in use at Camp Edwards have been reviewed and approved by EPA and the EMC. Classic pyrotechnics that were banned under the order will not be proposed for use. Where appropriate these devices have been tested to determine if there are constituents of concern and or the ingredient list of a proposed device has been presented to the agencies for their review and comment. Pyrotechnic items currently in use have limitations placed on the number of devices to be used annually. This limitation was developed using a highly conservative approach calculated by assuming that a large number of items would be used at a single area and that all of the devices' constituents would be available, soluble, and could move through the soil column freely to groundwater. In general the items approved can be used without concern for impacts to the groundwater. All items approved and in use have a Standard Operating Procedure (SOP) plan in place. These SOPs provide all users direction for use, management, and reporting for these devices on Camp Edwards. Any pyrotechnic device

proposed for future use would be reviewed by the EMC to ensure constituents of concern would not cause contamination that could result in the endangerment of the groundwater.

Working closely with EPA, MassDEP, the EMC, stakeholders and the public over the past nine years, the MANG has successfully implemented training with lead ammunition and approved pyrotechnics. Based on this success, we request the following:

1. End the prohibition of "All firing of lead ammunition or other 'live' ammunition at small arms ranges at or near the Training Range and Impact Area" and "All use of pyrotechnics at or near the Training Range and Impact Area"
2. End the Pilot Period for Tango, Juliet, and Kilo Ranges and allow continued use of these ranges using lead ammunition and existing Best Management Practices (BMPs).
3. Accept and approve the Pilot Period Final Report as complete.
4. Modify AO2 to allow the MANG to have current and future range and pyrotechnic use be under the oversight of the Commonwealth of Massachusetts Environmental Management Commission and its Environmental Officer as established by Chapter 47 the Acts of 2002 guided by the Environmental Performance Standards, as modified and accepted 11 July 2007.

As described in the Pilot Period Final Report and State of the Reservation Report, the MANG has developed and implemented the BMPs and tools to effectively manage the firing of lead bullets at the approved ranges and to use approved pyrotechnics at Camp Edwards. We believe through utilizing BMPs and working with our regulatory partners we have reduced the risk of future release or threat of release of lead, other metals, and other known constituents of concern into the environment.

In accordance with EPA's Tango Range (2007) Juliet and Kilo Range (2008) authorization letters as well as Appendices B and C, the MANG has fully complied with all the requirements of Section II.B subsections 1 through 4, and Section II.C subsections 1 through 4. For Sections II.C subsection 5, the MANG provided an interim report (Tango Range Interim Pilot Program/Lessons Learned Report, 12 May 2008), on the operations, observations and test results of Tango Range during the first half of the pilot program and a Final Tango Range Pilot Study Report submitted in August 2009.

The MANG has also complied with the approval letters regarding the M116A1 hand grenade simulator (25 June 2012), the M69 practice grenade with the M228 fuse (2 May 2013) and the percussion activated neutralizer (1 June 2016). The primary tenet of these approvals was to comply with all requirements set forth by the EMC and associated BMPs and Standard Operating Procedures.

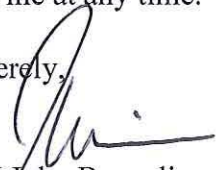
In conjunction with the Small Arms Range Working Group, range specific Best Management Practice (BMP): Operations, Maintenance, and Monitoring Plans have been developed for Tango, Juliet and Kilo Ranges. These plans have been consolidated and regularly updated as the need for improved communications and processes has been identified. To date, these plans have been updated on 14 occasions to provide more efficient BMPs and to be further protective of the resources at hand. This continuous adaptive process for the BMPs will continue. The MANG has routinely updated the EPA, MassDEP, EMC, as well as other stakeholder groups, regarding the status and use of Tango, Juliet, and Kilo Ranges. Updates regarding approval and use of pyrotechnics have also been provided to stakeholders. As part of the overall process, the MANG routinely briefs the EMC, the Science Advisory Council, Community Advisory Council, stakeholders and the public on the operational status of Tango, Juliet, and Kilo Ranges and the use of pyrotechnics as required.

The MANG has requested sufficient funds to sustain proper operation and maintenance of the STAPP™ system at Tango, Juliet, and Kilo Ranges. There has been extensive regulatory, stakeholder and public involvement during all phases of the development of range plans, the MANG is confident that the science as well as the performance indicators of the STAPP™ system and range OMMPs are in accordance with the requirements of the AO2 SOW.

The MANG has obligations and is committed to conduct training activities in a manner that protects the groundwater and ecological resources at Camp Edwards and complies with all applicable local, state, and federal environmental requirements. The MANG believes that modification of the AO2 SOW to allow live firing and pyrotechnic use at Camp Edwards with the oversight of the EMC and subject to BMPs is an appropriate approach to achieve the goals of training and environmental protection.

Thank you for your continued cooperation and attention to this very important issue. Should you have any questions please feel free to contact me at any time.

Sincerely,



MAJ John Bagaglio
Environmental Program Manager
Massachusetts Army National Guard
Joint Force Headquarters

Copies furnished: Len Pinaud, MassDEP/EMC
COL Francis Magurn
COL William O'Brien
LTC Shawn Cody
LTC Richard Bertone
LTC David Shannon